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Docket Management System
US Department of Transportation
Room 401
400 Seventh St., SW
Washington DC 20590-0001

Subject: **Docket No. FAA-2001-8994: AC21.101-1 Change 1, Advisory Material for the Establishment of the Certification Basis of Changed Aeronautical Products**

Dear Sir/Madam.

As members of the Changed Product Rule (CPR) "ad-hoc" working group presided over by JAA, Bombardier Aerospace and Canadian Industry in general have been actively involved in the development of the subject advisory material. We believe that a complete and harmonized regulatory package (rule and AC/ACJ) will be available for June 2003 implementation. Nevertheless, there remain some concerns that must be addressed by the ad-hoc group and the three Regulatory Agencies, as prescribed in the following comments:

Comment 1: Section 1. PURPOSE, para b:

It is important that this section establishes the correct tone for the AC. The first sentence of para b misleads the applicant into believing that all changes to the type design must comply with the requirements in effect on the date of application; whereas the second and third sentences better describe the true purpose of the 14 CFR 25.101 rule change and are consistent with the message in Sections 6 through 8 of the AC. The first sentence should be deleted.

Comment 2: Section 3. APPLICABILITY, para a:

The fact that the AC defines an application for a change to a type certificate as a "Major" change supports the earlier Canadian Industry position that the advisory material is, in fact, amending the rule. While Bombardier accepts the proposed AC text, the much larger understanding of CPR remains in jeopardy should 14 CFR 21.101 remain unchanged. Through participation in the ad-hoc group, Bombardier is aware that a more legal

interpretation of this regulation can be promulgated in the U.S. via the “pre-amble”. However, to our knowledge this opportunity is not available in Canada or Europe. Bombardier will continue to hold the position that the CPR rule itself must be in line with its advisory material and not require the advisory to provide the correct interpretation. We await further discussion on this item at future ad-hoc meetings.

Comment 3: Section 5. TERMINOLOGY, Certification Basis:

An administrative error in referencing the Joint Aviation Requirements.

Comment 4: Section 6. OVERVIEW, para b:

While there is an administrative error in referencing NPA 21-7, it is unclear as to the value of the second sentence. Once again, the premise that all changed products must comply with the latest requirements is misleading in context of earlier sections in the AC. It is suggested that the second sentence be deleted and para a and the first sentence of para b are merged

Comment 5: Section 6. OVERVIEW, para c:

The first sentence is, again, too general on the application of the latest requirements. We propose the following alternative – “Title 14 CFR 21.101~~(a)~~ requires that the discussion on the Certification Basis for changed products starts with the latest requirements in conjunction with the type of change being made.”

Comment 6: Section 6. OVERVIEW, para d:

The nature of the text places this explanation more appropriately in para c. Also, the text that limits the use of earlier requirements to those referenced in the existing type certificate is better described in para c. Furthermore, it is advisable to use the defined term from the AC “earlier requirements” in lieu of “earlier regulations”. It is also worth considering, when using the term “earlier requirements”, if it is necessary to repeat the limiting conditions. The fact that earlier requirements may not precede those of the existing certification basis is inherent in the definition. The definition should be amended if FAA wish to add reference to requirements of 23.2, 25.2, 27.2 and 29.2.

Comment 7: Section 6. OVERVIEW, para h:

In “Applicability”, reference is made to the 14 CFR 21.101 process being applicable to Major design changes. It is recommended that this lead into the flow chart be consistent by inserting the word “Major” as follows: “.....for a proposed Major design change under 21.101,.....”

Comment 8: Flowchart, Figure 1:

To ensure consistency within the AC and reinforce the correct understanding of CPR, a reference to Product Level changes should be incorporated into the flow chart. Before the current Step 4, a decision as to whether the change is at the product level should be made. If “NO” the chart should lead directly to the use of the earlier/existing certification basis. If “YES”, the chart should lead into the decision on whether the change is significant. This addition will change the text of Note 2 if a separate “Step” is created

Comment 9: Section 7. ESTABLISHING THE CERTIFICATION BASIS:

In STEP 3, the “note” is not clear. From our analysis, there are two possible messages intended:

1. The change in question need only be assessed against the existing certification basis because the requirements affected have not been revised, or
2. Only those requirements which have changed since the existing certification basis are considered in the 21.101 assessment.

In either case, clarity in the note is required.

Comment 10: Section 9. SHOWING COMPLIANCE - EARLIER AMENDMENT:

The definition of secondary changes and their relation to which level of requirement should be addressed appears in several parts of this section. FAA should merge the description of what constitutes a secondary change into one paragraph. In this way, the ensuing message, that earlier requirements can be used, would be clearer. Furthermore, in para c (2) under Step 5, a different description of which requirement level must be addressed by secondary changes is used. This may lead to confusion and should be corrected, at least to bring it into line with c(4).

May 17, 2002

Comment 11: Appendix 2. - 1) INTRODUCTION

In Step 2 (2), Step 3 and other parts of this section, an administrative error in referencing JAA nomenclature (NPA etc).

The text in Step 7 (d) is inappropriate. This appears to be a remnant from previous drafts and should be deleted.

Comment 12: Appendix 3. - 2) GUIDELINES

An administrative error in referencing JAA nomenclature (CRI). It appears that this and other sections were written from a JAA point of view. While this demonstrates the harmonized nature of the material, there should be additional editing to ensure consistency in terms for the US and European versions.

Comment 13: GENERAL

In our opinion, the advisory material presented in Change 1 of this AC has been significantly improved over earlier versions. The key now is to finalize the criteria through the JAA ad-hoc working group during fall 2002 and develop a comprehensive training curriculum. Bombardier Aerospace have offered assistance to Transport Canada and other Agencies in the development of the training program which, in order to obtain optimum results, should also be harmonized across North America and Europe. Furthermore, any training forum should have a combined Industry and Regulatory participation. Only working together to establish a mutually agreed understanding of CPR will result in successful implementation of this rule change in the field.

This concludes the Bombardier Aerospace comments. We await your response.

Yours very truly,

A handwritten signature in black ink, appearing to read 'K.A. Barnett', with a stylized, sweeping flourish at the end.

K.A. Barnett
Manager, Airworthiness